REMARKS

After entry of this Amendment, claims 1-16 are pending in this application. Claims 1-6, 8-13, 15 and 16 stand rejected. Claims 1-16 stand objected to. Claims 1 and 15 have been amended. In view of the amendments to the claims and the remarks below, Applicants respectfully request the rejections and objections be withdrawn and that the claims be allowed.

Claims 1-16 stand objected to as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Specifically, claims 1 and 15 stand objected because of the phrase "may be." Claims 2-14 and 16 depend from claim 1, and thus stand objected to for the same reasons that claim 1 stands objected to. In response to the objection, applicant has amended claims 1 and 15 as suggested by the Examiner. Accordingly, Applicants request that the objection to claims 1-16 be withdrawn and the claims allowed.

Claims 1, 5, 6, 8-13, 15 and 16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,144,456 to Chavanne et al. ("Chavanne"). The rejection is respectfully traversed.

Claim 1 recites an apparatus for varying the path length of a beam of radiation. The apparatus includes "an element rotatably mounted about an axis" and "driving means for rotatably oscillating said element back and forth about said axis." Claim 1, therefore, recites an apparatus that differs from the prior art for at least the reason that the prior art discloses the use of "a constantly rotating optic" and not a "rotatably oscillating" element that oscillates "back and forth." *See, e.g.*, Application, p. 2, para. 1. As explained below, Chavanne discloses a constantly rotating element but fails to teach or suggest at least a "driver means for rotatably oscillating said element back and forth about said axis."

Chavanne is directed to an apparatus having a multiple angle transparent rotating element. Chavanne, Title. As the title suggests and as disclosed in Chavanne, the transparent element rotates about an axis. *See, e.g.*, col. 2, l. 61; col. 4, ll. 53-55; figs. 2-3, ref. no. 33. Figures 2 and 3 of Chavanne show rotation in only one direction (as indicated by reference number 33).

Chavanne never teaches or suggests anything other than simple rotation, let alone oscillation, of the transparent element.

The Examiner seems to suggest that simple rotation of the transparent element of Chavanne is the same as the oscillating element of the present application. Office Action, pp. 8-9. Applicants disagree. The transparent elements of Chavanne are disclosed to be either four-sided or eight-sided. Chavanne, figs. 2-4, 7. The elements are symmetric. Rotation of the four-sided element will result in periodic beam path changes every 90° of rotation. Chavanne, figs. 5-6. Rotation of the eight-sided elements will result in periodic beam path changes every 45° of rotation. Chavanne, fig. 7. However, this periodicity or oscillation in the beam path is not the result of an *oscillating* transparent element. The elements of Chavanne appear to simply rotate, thus creating the periodic changes in beam path. There is no suggestion in Chavanne that the Chavanne elements rotate back and forth in an oscillating manner.

The Examiner states that the Chavanne element oscillates between π and $-\pi$ radians. Office Action, p. 8. Applicants do not see any support in Chavanne for the conclusion that the Chavanne element rotates back and forth between π and $-\pi$ radians. Instead, the Chavanne element continually rotates in a single direction. Continual rotation results in a periodic motion of the Chavanne element, but it does not mean that the Chavanne element rotates back and forth.

To clarify the difference between continuous rotation in a single direction and back and forth oscillation, Applicants have added the term "back and forth" to claims 1 and 15. In the present application, the word "oscillating" is meant to convey a back and forth motion that is different from a fully rotating motion. "By oscillating the element as opposed to fully rotating the element, it is possible to minimize the angles, which the control element scans through, which result in incident radiation being incorrectly reflected. Thus the duty cycle of the element may be increased to values in excess of 90%." Application, p. 3, para. 3.

For at least this reason, Chavanne fails to render claim 1 unpatentable. Claim 1 is thus allowable over Chavanne. Claims 5, 6 and 8-13 depend from claim 1 and are allowable over

Chavanne for at least the same reasons that claim 1 is allowable over Chavanne. Claim 16 recites a system that includes the apparatus of claim 1, and is thus also allowable for at least the same reasons that claim 1 is allowable.

Claim 15 recites a method for varying the path length of a beam of radiation. The method includes providing an element, "rotatably mounting said element about an axis; and rotatably oscillating said element back and forth about said axis." As explained above, Chavanne fails to teach or suggest the back and forth oscillation of a transparent element. Chavanne only teaches the rotation of the transparent element. For at least this reason, claim 15 is allowable over Chavanne.

Because Chavanne fails to teach or suggest each element of claims 1, 5, 6, 8-13, 15 and 16, these claims are allowable over Chavanne. Accordingly, Applicants respectfully request that the rejections be withdrawn and the claims be allowed.

Claims 2-4 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Chavanne in view of U.S. Patent Application No. 2005/0168751 to Horii et al. ("Horii"). The rejection is respectfully traversed.

Claims 2-4 depend from claim 1. As explained above, claim 1 is not rendered unpatentable by Chavanne for at least the reason that Chavanne fails to teach or suggest "driving means for rotatably oscillating said element back and forth about said axis." For at least this same reason, claims 2-4 are also not rendered unpatentable by Chavanne.

Horii is directed to an optical imaging apparatus with an optical scanning probe. Horii, Abstract. Although Horii is relied upon in the Office Action to teach the use of a galvanometer as a driving means (Office Action, p. 8), Horii fails to remedy the inadequacies of Chavanne. Specifically, Horii does not teach or suggest a driving means that rotatably oscillates the element recited in claim 1. Therefore, for at least this reason, Horii does not render claims 2-4 unpatentable.

Because the combination of Chavanne and Horii fails to teach each element and limitation of claims 2-4, claims 2-4 are allowable over the cited combination. Applicants respectfully request that the rejections be withdrawn and the claims be allowed.

Claims 7 and 14 stand objected to as being dependent upon a rejected base claim, but would otherwise be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants are grateful for the Examiner's indication of allowable subject matter in these claims. However, because claims 7 and 14 depend from claim 1, and because claim 1 is believed to be allowable, as explained above, Applicants believe that claims 7 and 14 are also allowable. Applicants respectfully request that the objection be withdrawn and the claims be allowed.

In view of the above amendment, Applicants believe the pending application is in condition for allowance. If there are any additional charges in connection with this filing or any subsequent filings (including but not limited to issue fees), the Examiner is respectfully requested and authorized to charge Deposit Account No. 04-1073 therefor under Order No. M0025.0323/P323.

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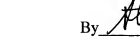
Respectfully submitted,

By 

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